GRIFFIN INTERNATIONAL INC

March 12, 2001

Mr. Chuck Schwer
Agency of Natural Resources
Department of Environmental Conservation
103 S. Main St./West Office
Waterbury, VT 05671-0404

RE: Summary Report of Subsurface Petroleum Contamination at the former St. Johnsbury House, St. Johnsbury, Vermont.
VT-DEC #2000-2803

Dear Mr. Schwer,

The following report is a copy of the Summary Report of Subsurface Petroleum Contamination at the former St. Johnsbury House, St. Johnsbury, Vermont.

Please call with any questions or concerns.

Sincerely,

Rob Danckert
Project Manager

C: File: 100041751

Enc.

P.O. Box 943 • Williston, VT 05495 • Phone 802-865-4288 • Fax 802-657-4129
59 Clinton Street • Plattsburgh, NY 12901 • Phone 518-562-4666 • Fax 518-561-6832

SUMMARY REPORT OF SUBSURFACE PETROLEUM CONTAMINATION AT THE FORMER ST. JOHNSBURY HOUSE ST. JOHNSBURY, VERMONT

FEBRUARY 6, 2001

Site Location:

FORMER ST. JOHNSBURY HOUSE
44 MAIN STREET
ST. JOHNSBURY, VERMONT

GI Project #100041751
VTDEC SITE #00-2803

Prepared For:

Mr. Chris Boffa
Pinnacle Builders, Inc.
7 Aspen Dr.
S. Burlington, Vermont 05403-6247

Prepared By:

P.O. Box 943 / 171 Commerce Street Williston, VT 05495 (802) 865-4288

Table of Contents

APPENDICES

I. INTRODUCTION

This report summarizes the results of the preliminary investigation of subsurface petroleum contamination at the former St. Johnsbury House at 44 Main St., St. Johnsbury, Vermont. (see Site Location Map in Appendix A). This work was conducted by Griffin International, Inc. (Griffin) for Mr. Chris Boffa of Pinnacle Builders, Inc. Investigative efforts at the site were initially conducted due to the detection of subsurface petroleum contamination during the removal of one 1,000-gallon #2 fuel oil underground storage tank (UST), one 2,000 gallon fuel oil UST, and one 3,000 gallon fuel oil UST in August 2000. The 1,000 gallon #2 fuel oil UST was the only tank that exhibited signs of contamination. This investigative effort is the result of a request made by Mr. Chuck Schwer of the Vermont Department of Environmental Conservation (VTDEC) in a September 14, 2000 letter to Griffin International. Scheduled work was approved by Mr. Schwer in a December 6, 2000 letter to Griffin.

Scheduled work for this site investigation included the drilling of four monitoring wells, the collection and laboratory analysis of groundwater samples from the four monitoring wells (MW-1 through MW-4) that are located in the vicinity of the former #2 fuel oil UST. Work has been conducted in accordance with Griffin's *Revised Work Plan and Cost Estimate for an Initial Subsurface Investigation* dated December 5, 2000.

II. INVESTIGATIVE PROCEDURES

A. Drilling Methods and Monitoring Well Installation

On January 8 and January 9, 2000, four (4) soil borings were advanced by T&K Drilling of East Swanzea, New Hampshire using a truck-mounted, 4.25" inside diameter (ID), hollow-stem auger drill rig. Monitoring wells MW-1, MW-2, MW-3, and MW-4 were constructed in the four soil borings that were installed in the vicinity of the former #2 fuel oil UST. Monitoring wells MW-3 was installed in a location believed to be crossgradient of the former UST area. Monitoring well MW-4 was installed in a location believed to be downgradient of the former UST area. Monitoring well MW-2 was installed in an area believed to be adjacent to the source area while MW-1 was installed in a location believed to be upgradient of the source area. The monitoring wells were installed to help define the degree and extent of potential petroleum contamination in the vicinity of the former UST (see Site Map, Appendix A).

Soil samples were collected at 5-foot intervals in each boring using a two-foot long, 2" ID stainless steel split-spoon sampler. The split-spoon sampler was decontaminated in the field with a solution of Alconox (detergent) and water to prevent potential cross-contamination. Soil samples were screened for VOCs using an Hnu™ Model HW-101 Photoionization Detector (PID) equipped with a 10.2 eV bulb. Soils were screened using the Griffin Jar/Polyethylene Bag Headspace Screening Protocol, which conforms to state and industry standards. In addition, soil characteristics were recorded in boring logs by the Griffin drilling supervisor (see Boring Logs, Appendix B).

All of the monitoring wells are constructed of newly threaded, flush-joint, schedule 40, 2" ID polyvinyl chloride (PVC) riser attached to a 0.010-slot, 2" ID PVC screen. The screen is attached to the riser by a watertight, threaded, flush joint coupling. A sealed watertight roadway box was installed at grade to protect the well. The top of the riser is capped with a lockable expansion plug.

The screened interval in wells MW-1 through MW-4 ranges from 20 to 30-feet below surface grade (bsg). A silica sand pack was placed around the screened portion of each well in order to prevent fine sediments within the groundwater from entering the well. A bentonite seal was placed in the annulus immediately above the sand pack to prevent infiltration into the borehole. An additional seal was placed closer to the ground surface to prevent surface water from entering the borehole. Please refer to the Boring Logs in Appendix B for further details on the construction of each well.

SB-1/MW-1

Subsurface conditions encountered from zero to approximately 2.0 and 25 to 27 feet below surface grade (bsg) in boring SB-1 consisted of moist, dark brown, sandy lean clay. Soils encountered at 5 to 7 feet bsg consisted of poorly graded sand with gravel. Soils encountered at 10 to 12, 15-17, 20 to 22, and 30 to 32 feet bsg consisted of light brown, silty sand. Driller refusal was not encountered throughout drilling of MW-1. VOCs were not recorded above the detection limits of the PID in the screened soils during the advancement of this boring. Groundwater was encountered at approximately 26.1 feet bsg.

SB-2/MW-2

Subsurface conditions encountered from zero to approximately 2, 4 to 6, 9 to 11, 14 to 16, and 19 to 21 feet below surface grade (bsg) in boring SB-2 consisted of moist, poorly graded, brown silty sand. From 24 to 26 feet bsg a poorly graded sand with silt was encountered. Poorly graded sand was encountered at 29 to 31 feet bsg. Driller refusal was not encountered at SB-2. VOCs were detected from approximately 4 to 26 feet bsg ranging from 0.8 to 12.8 parts per million (ppm). Groundwater was encountered at approximately 25.8 feet bsg. Contaminated soils were stockpiled at the north side of the St. Johnsbury House over a plastic sheet.

SB-3/MW-3

Subsurface conditions encountered from zero to approximately 2, 5 to 7, and 10 to 12 feet bsg in the boring for monitoring well MW-3 consisted of well graded sand with silt. The boring for MW-3 was advanced to 32 feet below surface grade (bsg). Soil encountered at 15 to 17, 20 to 22, 25 to 27, and 30 to 32 feet bsg consisted of light grey and dark brown poorly graded sands. Driller refusal was not encountered throughout drilling of SB-3. VOCs were not recorded above

the detection limits of the PID in the screened soils during the advancement of this boring. Groundwater was encountered at approximately 26 to 27 feet bsg.

SB-4/MW-4

Subsurface conditions encountered from zero to approximately 2.0 and 15 to 17 feet bsg in the boring for monitoring well MW-4 consisted of silty sand. The boring for MW-4 was advanced to 32 feet below grade. Soils encountered at 5 to 7, 10 to 12, 20 to 22, 25 to 27, and 30 to 32 feet bsg consisted of poorly graded sand with silt. Driller refusal was not met throughout drilling of this boring. VOCs were not recorded above the detection limits of the PID during the advancement of this boring. Groundwater was encountered at approximately 25 to 27 feet bsg.

B. Determination of Groundwater Elevations, Flow Direction, and Gradient

On January 19, 2001, depth to water measurements were taken with the use of an interface probe in the four monitoring wells. The relative water table elevation was determined, based on an arbitrary benchmark of 100 feet (top of casing for MW-1).

As displayed on the groundwater contour map included in Appendix A, the groundwater flow direction for the January 19, 2001 sampling round was estimated to be in a northwesterly direction at a gradient of approximately 0.8%. No free phase petroleum product was observed in any of the monitoring wells on January 19, 2001. Groundwater level data are recorded in Appendix C.

C. Groundwater Sample Collection and Analysis

On January 19, 2001 groundwater samples were collected from the four monitoring wells. The samples were stored on ice, and submitted to Endyne, Inc. of Williston, Vermont, under proper chain-of-custody procedures. The samples were collected according to Griffin's groundwater sampling protocol, which complies with industry and state standards. The samples were analyzed for VOCs by EPA Method 8021B and for Total Petroleum Hydrocarbons via EPA Method 8015 DRO. In accordance with VTDEC protocols and for quality assurance/quality control (QA/QC) purposes, a duplicate sample (MW-1) was also collected and analyzed for VOCs by EPA Method 8021B and 8015 DRO.

No VOCs were reported as detected above laboratory detection limits in groundwater from monitoring wells MW-1, MW-2, MW-3, and MW-4 (See Appendix D).

Results from the analyses of the duplicate sample indicate that adequate QA/QC measures were maintained during sample collection and analysis.

D. Sensitive Receptor Risk Assessment

A sensitive receptor risk assessment was conducted at the site during the sampling event conducted on January 19, 2001 and after the results of the lab analyses were reviewed.

The former St. Johnsbury House and other buildings in the area are considered at minimal risk from the on-site petroleum contamination due to the low concentrations of contamination detected at the site, and given the other residential distances from the source area. Indoor air inside of rooms adjacent to the UST excavation were screened with a PID on August 10, 2000. No elevated readings were recorded.

The nearest surface water is the Passumpsic River, located approximately 700 yards east of the source area at the St. Johnsbury House and the Sleepers River that is located approximately 650 yards west of the St. Johnsbury House. The Sleepers River is downgradient of the source area based upon the January 19, 2001 water table elevations. The Sleepers River is considered at minimal risk of petroleum impact from the former St. Johnsbury House given its distance from the subject site and the low concentrations of petroleum constituents detected in soils beneath the site.

III. CONCLUSIONS

Based on the additional site investigation at the St. Johnsbury House site, the following conclusions are offered:

1. One 1,000-gallon #2 fuel oil UST was removed from the former St. Johnsbury House site on August 10, 2000. Peak PID readings measured during this excavation measured 226 ppm. Four groundwater monitoring wells were installed at the subject site in order to further characterize the degree and extent of residual petroleum impacts at the site on January 8 and January 9, 2001. PID readings in soil ranged from non-detect to 12.8 ppm on the two days of drilling.

2. The groundwater flow direction for the January 19, 2000 sampling round was estimated to be in a northwesterly direction at a gradient of approximately 0.8%.

3. No free phase petroleum product was observed in any of the monitoring wells on the January 19, 2000 sampling round.

4. No VOCs were reported as detected above laboratory detection limits in groundwater from monitoring wells MW-1, MW-2, MW-3, or MW-4.

5. Based on field observations and analytical results, residual petroleum impacts are present to a limited extent in soil at the location of the former St Johnsbury House, chiefly in the vicinity of monitoring well MW-2, which is located adjacent to the former UST pit. There are

currently no other known receptors affected by subsurface petroleum contamination from the former #2 fuel oil UST at the former St. Johnsbury House property.

IV. RECOMMENDATIONS

Based on the results of this site investigation, Griffin recommends that the former St. Johnsbury House in St. Johnsbury, Vermont be considered for closure and be removed from the VTDEC Active Hazardous Waste Sites List. This recommendation is offered based upon achievement of the following closure criteria, as per the VTDEC Site Management Activity Completed (SMAC) Checklist (dated December 1, 1997):

1) The source(s), nature, and extent of the petroleum contamination at the site have been adequately defined.

   See Conclusions #1, #2, #3, #4, and #5.

2) Source(s) has been removed, remediated, or adequately contained.

   See Conclusions #1 #4, and #5.

3) Levels of contaminants in soil and groundwater shall be stable, falling, or non-detectable.

   See Conclusions #4.

4) Groundwater enforcement standards are met at the following compliance points:

   Any point of present use of groundwater as a source of potable water: Potable water for the former St. Johnsbury House is supplied from town water. Also, see Conclusion #4.

   Any point at or within the boundary of any Class I groundwater area: The former St. Johnsbury House is not within a Class I groundwater area.

   Any point at the boundary of the property on which the contaminant source is located: See Conclusion #4.

5) Soil guideline levels are met. If not, engineering or institutional controls are in place.

   See Conclusion #1. Also, the area in the vicinity of the former UST location is paved. However, impacted soils were detected only in the boring for monitoring well MW-2 at a depth of 4-6 feet bsg. This 0-4 feet bsg "buffer" of non-impacted soils would likely inhibit exposure via dermal contact to petroleum-impacted soils.

6) No unacceptable threat to human health or the environment exists on site.

See Conclusions #4 and #5.

7) Site meets RCRA requirements.

Available records indicate that the former St. Johnsbury House is not in violation of the Resource Conservation and Recovery Act (RCRA) as defined in 40 CFR 264.

8) Site meets CERCLA requirements.

Available records indicate that the former St. Johnsbury House is not in violation of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as defined in 40 CFR 300.

Additionally, Griffin recommends that the four site monitoring wells be properly abandoned according to VTDEC requirements for well closure.

APPENDIX A

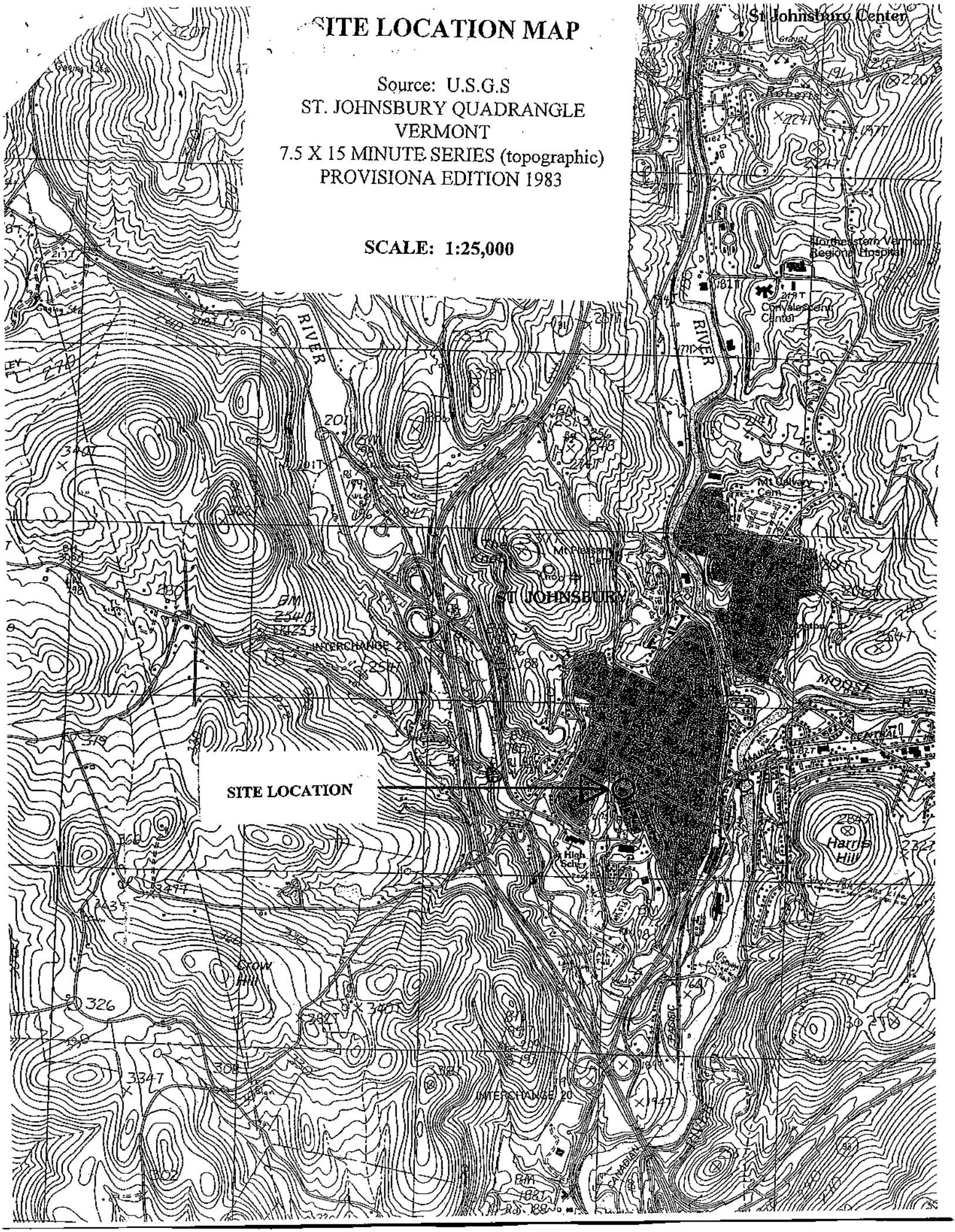
MAPS

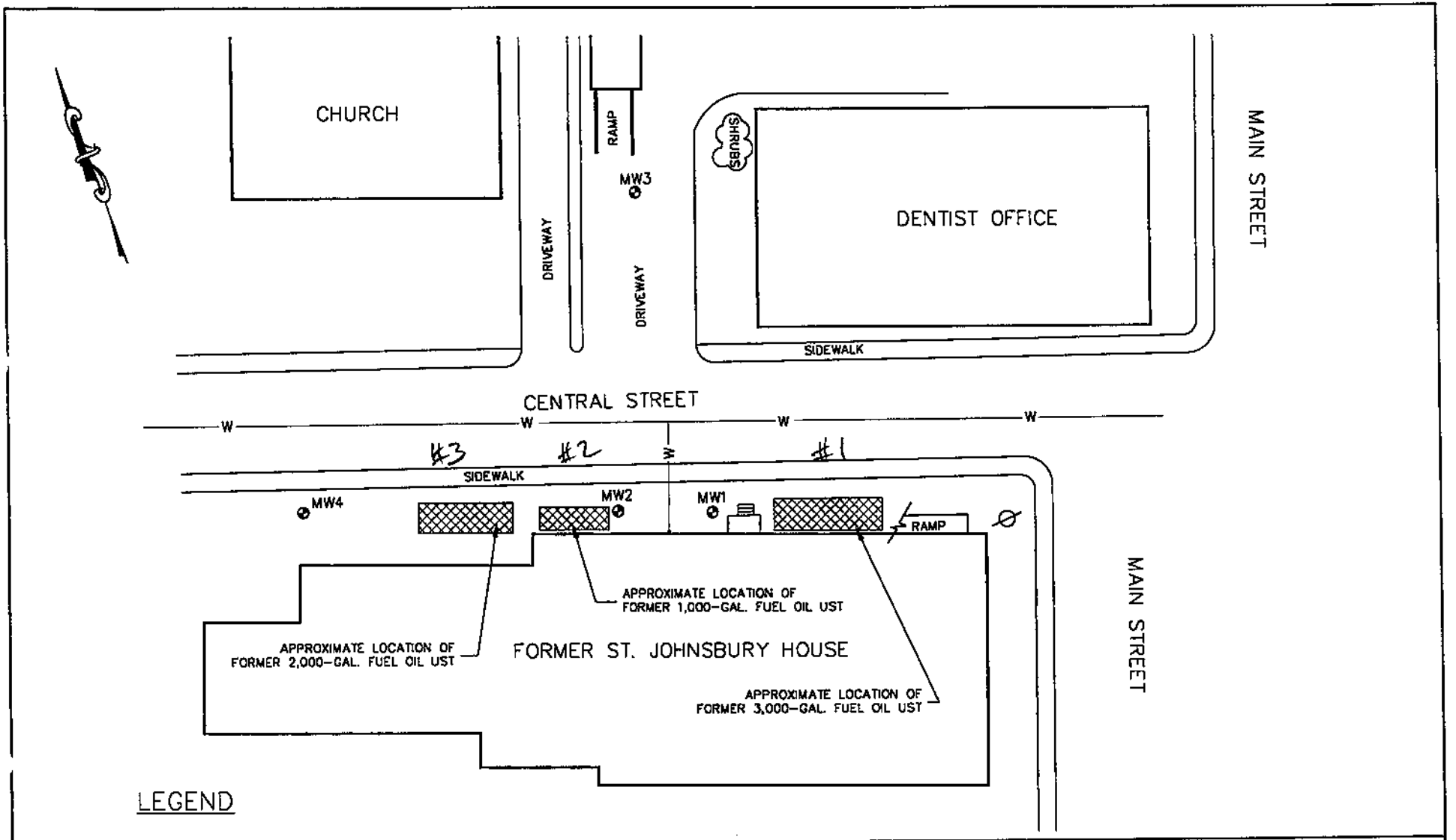
1) SITE LOCATION MAP
2) SITE MAP
3) GROUNDWATER CONTOUR MAP

SITE LOCATION MAP

Source: U.S.G.S
ST. JOHNSBURY QUADRANGLE
VERMONT
7.5 X 15 MINUTE SERIES (topographic)
PROVISIONA EDITION 1983

SCALE: 1:25,000





LEGEND

MW1 — MONITORING WELL

LAMP POST

—W— WATER LINE (APPROX. LOCATION)

VTDEC SITE #: 00-2803
JOB #: 100041751

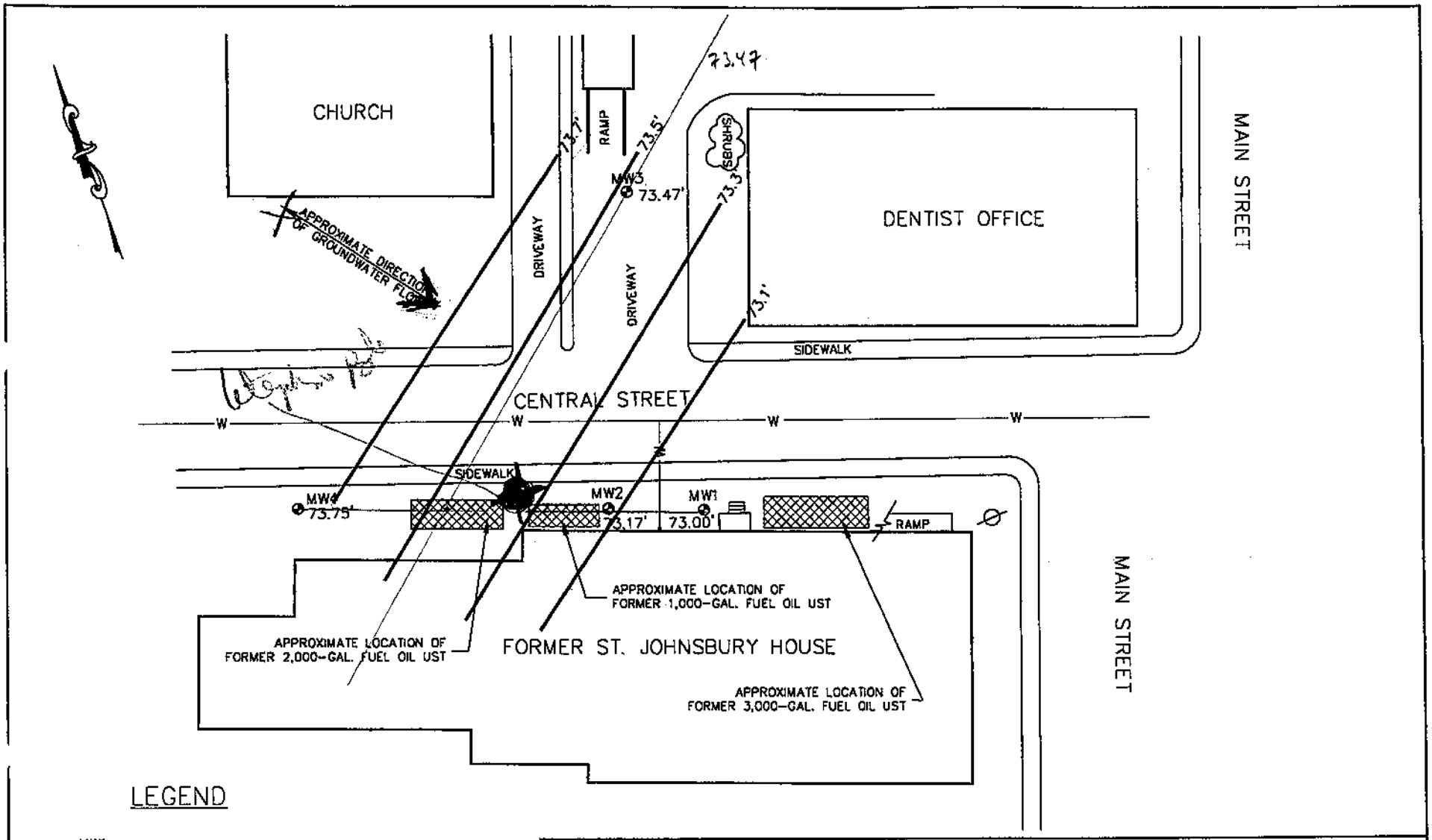
GRIFFIN INTERNATIONAL, INC.

FORMER ST. JOHNSBURY HOUSE

44 MAIN STREET, ST. JOHNSBURY, VT

SITE MAP

DATE: 2/5/01	DWG.#: 1	SCALE: 1"= 40'	DRN.: MP	APP.: RD



LEGEND

MW1 73.00' — MONITORING WELL WITH GROUNDWATER ELEVATION (ft)

73.1' — GROUNDWATER CONTOUR (ft)

LAMP POST

—W— WATER LINE (APPROX. LOCATION)

VTDEC SITE #: 00-2803
JOB #: 100041751

GRIFFIN INTERNATIONAL INC.

FORMER ST. JOHNSBURY HOUSE

44 MAIN STREET, ST. JOHNSBURY, VT

GROUNDWATER CONTOUR MAP

MEASURED: 1/19/01

DATE: 2/5/01	DWG.#: 2	SCALE: 1"= 40'	DRN.: MP	APP.: RD

APPENDIX B

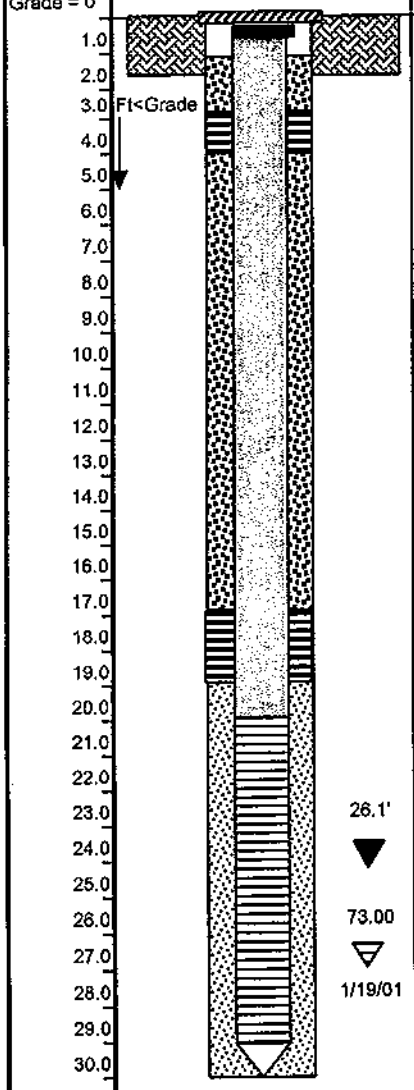
BORING LOGS

BORING LOG AND WELL CONSTRUCTION DIAGRAM
Well No: MW-1

GRIFFIN INTERNATIONAL

ST. JOHNSBURY HOUSE
ST. JOHNSBURY, VERMONT
Project #100041751

Griffin Project #:	100041751	Date Installed:	1/8/01-1/9/01
Drilled by :	Griffin International	Drilling Method:	Hollow-stem auger
Driller:	T&K Drilling	Boring Diameter.:	4.25"
Supervised by:	RD	Development Method:	Bailing
Logged by:	RD	Screened Length:	10 Ft.



Pen/Rec (") / Blow Count	Interval (') / PID (ppm)	Soil Characteristics: Dirt surface	Letter Symbol	Graphic Symbol
CUTTINGS	1-2'	Dark brown, sandy lean clay	CL	
NA	ND			
24/17	5-7'	Light brown, poorly graded sand w/ gravel.	SP	
4-3-4-4	0.2			
24/20	10-12'	Light brown, silty sand.	SM	
3-3-4-4	ND			
24/18	15-17'	Light brown, silty sand.	SM	
3-5-5-4	ND			
24/21	20-22'	Light brown, silty sand.		
4-4-6-5	ND	Trace amounts of gravel present. Iron staining visible.	SM	
24/19	25-27'	Dark brown, sandy lean clay.	CL	
5-5-3-8	ND			
24/20	30-32'	Dark brown, silty sand	SM	
3-5-6-6	ND			
		Base of Exploration.		

Legend

- Road Box with Bolt Down Cover, Set in Cement.
- Existing Surface.
- Bentonite Seal Placed in Annulus.
- Grade #1 Silica Sand Pack Placed in Annulus.
- Drill Cuttings Placed in Annulus.
- ND - Non-Detect
- NA - Not Applicable
- UNK-Unknown
- Locking Plug.
- 2.0" ID, Schedule 40 PVC Riser.
- 2.0" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen
- Plug Point
- Approximate Water Level During Drilling (feet below surface grade)
- Static Water Level (feet)

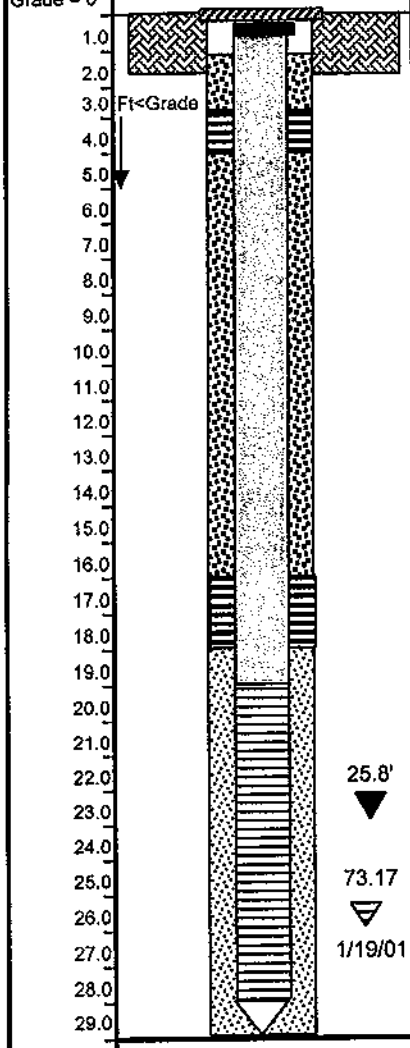
BORING LOG AND WELL CONSTRUCTION DIAGRAM

Well No: MW-2

GRIFFIN INTERNATIONAL

ST. JOHNSBURY HOUSE
ST. JOHNSBURY, VERMONT
Project #100041751

Griffin Project #:	100041751	Date Installed:	1/8/01-1/9/01
Drilled by :	Griffin International	Drilling Method:	Hollow-stem auger
Driller:	T&K Drilling	Boring Diameter.:	4.25"
Supervised by:	RD	Development Method:	Bailing
Logged by:	RD	Screened Length:	10 Ft.



Well Construction	Pen/Rec (") / Blow Count	Interval (') / PID (ppm)	Soil Characteristics	Letter Symbol	Graphic Symbol
			Dirt surface		
	CUTTINGS	1-2'	Dark brown, silty sand.	SM	
	NA	ND			
	24/27	4-6'	Dark brown, silty sand.	SM	
	4-4-5-5	12.8			
	24/22	9-11'	Light brown, silty sand.	SM	
	3-3-4-4	4.5			
	24/18	14-16'	Light brown, silty sand.	SM	
	4-5-7-8	0.2	Gradational contact to light grey, silty sand		
	24/19	19-21'	Light brown, silty sand.	SM	
	4-6-7-8	3.4			
	24/22	24-26'	Poorly graded sand with silt.	SP-SM	
	6-6-7-5	0.8			
	24/23	29-31'	Poorly graded sand.	SP	
	1-1-2-5	ND			
			Base of Exploration.		

Legend

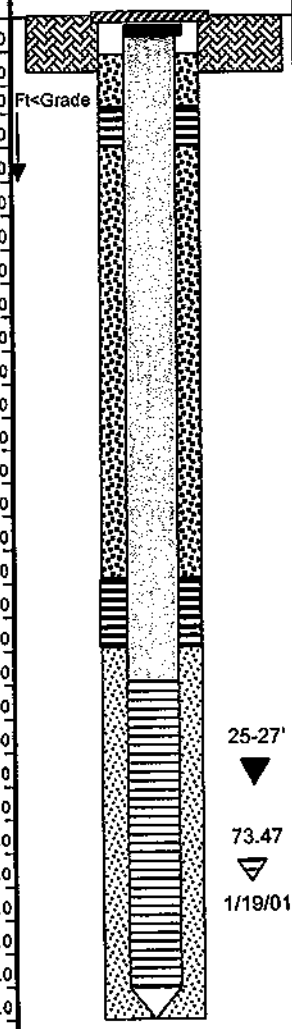
- Road Box with Bolt Down Cover, Set in Cement.
- Existing Surface.
- Bentonite Seal Placed in Annulus.
- Grade #1 Silica Sand Pack Placed in Annulus.
- Drill Cuttings Placed in Annulus.
- ND - Non-Detect
- NA - Not Applicable
- UNK-Unknown
- Locking Plug.
- 2.0" ID, Schedule 40 PVC Riser.
- 2.0" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen
- Plug Point
- Approximate Water Level During Drilling (feet below surface grade)
- Static Water Level (feet)

BORING LOG AND WELL CONSTRUCTION DIAGRAM
Well No: MW-3

ST. JOHNSBURY HOUSE
ST. JOHNSBURY, VERMONT
Project #100041751

GRIFFIN INTERNATIONAL

Griffin Project #:	100041751	Date Installed:	1/8/01-1/9/01
Drilled by :	Griffin International	Drilling Method:	Hollow-stem auger
Driller:	T&K Drilling	Boring Diameter.:	4.25"
Supervised by:	RD	Development Method:	Bailing
Logged by:	RD	Screened Length:	10 Ft.



Well Construction	Pen/Rec (") / Blow Count	Interval (') / PID (ppm)	Soil Characteristics	Letter Symbol	Graphic Symbol
Grade = 0			Asphalt surface		
	CUTTINGS	1-2'	Dark brown, well graded sand with silt.	SW-SM	
	NA	ND			
	24/20	5-7'	Light brown, well graded sand with silt.	SW-SM	
	2-3-4-6	ND			
	24/23	10-12'	Light brown, silty sand.	SM	
	3-4-6-7	ND			
	24/19	15-17'	Light grey, poorly graded sand.	SP	
	5-6-9-12	ND			
	24/21	20-22'	Light grey, poorly graded sand.	SP	
	12-14-13-16	ND			
	24/21	25-27'	Dark brown, poorly graded sand.	SP	
	5-7-6-10	ND			
	24/23	30-32'	Dark brown, poorly graded sand.	SP	
	1-3-5-7	ND			
			Base of Exploration.		

Legend

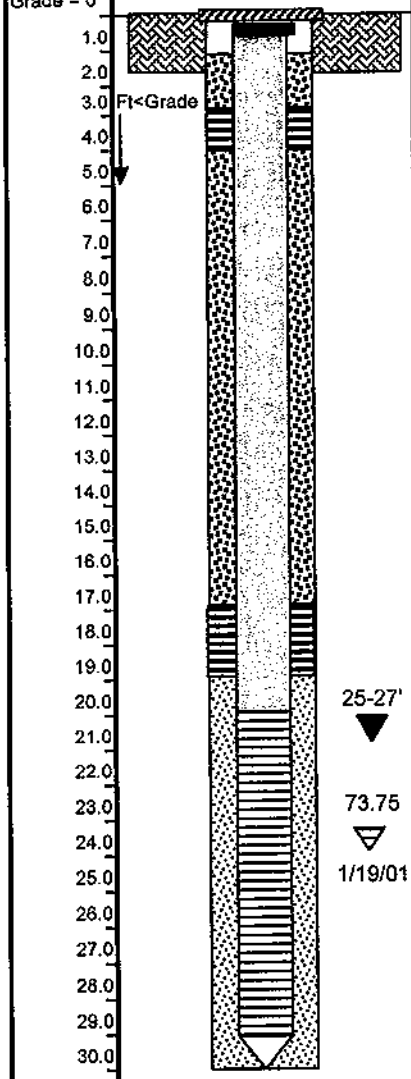
- Road Box with Bolt Down Cover, Set in Cement.
- Existing Surface.
- Bentonite Seal Placed in Annulus.
- Grade #1 Silica Sand Pack Placed in Annulus.
- Drill Cuttings Placed in Annulus.
- ND - Non-Detect
- NA - Not Applicable
- UNK-Unkown
- Locking Plug.
- 2.0" ID, Schedule 40 PVC Riser.
- 2.0" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen
- Plug Point
- Approximate Water Level During Drilling (feet below surface grade)
- Static Water Level (feet)

BORING LOG AND WELL CONSTRUCTION DIAGRAM
Well No: MW-4

GRIFFIN INTERNATIONAL

ST. JOHNSBURY HOUSE
ST. JOHNSBURY, VERMONT
Project #100041751

Griffin Project #:	100041751	Date Installed:	1/8/01-1/9/01
Drilled by :	Griffin International	Drilling Method:	Hollow-stem auger
Driller:	T&K Drilling	Boring Diameter.:	4.25"
Supervised by:	RD	Development Method:	Bailing
Logged by:	RD	Screened Length:	10 Ft.



Well Construction	Pen/Rec (") / Blow Count	Interval (') / PID (ppm)	Soil Characteristics	Letter Symbol	Graphic Symbol
			Dirt surface		
	CUTTINGS	1-2'	Silty sand	SM	
	NA	ND			
	24/23	5-7'	Poorly graded sand with silt.	SP-SM	
	4-4-4-4	ND			
	24/21	10-12'	Poorly graded sand with silt.	SP-SM	
	4-5-5-6	ND	Sharp silt contact at 12'.		
	24/22	15-17'	Light brown, silty sand.	SM	
	5-5-6-6	ND			
	24/21	20-22'	Poorly graded sand with silt.	SP-SM	
	5-6-7-9	ND	2" silt layer @ 20'.		
	24/20	25-27'	Poorly graded sand with silt.	SP-SM	
	1-3-3-2	ND			
	24/19	30-32'	Poorly graded sand with silt.	SP-SM	
	1-1-5-5	ND			
			Base of Exploration.		

Legend

- Road Box with Bolt Down Cover, Set in Cement.
- Existing Surface.
- Bentonite Seal Placed in Annulus.
- Grade #1 Silica Sand Pack Placed in Annulus.
- Drill Cuttings Placed in Annulus.
- ND - Non-Detect
- NA - Not Applicable
- UNK- Unknown
- Locking Plug.
- 2.0" ID, Schedule 40 PVC Riser.
- 2.0" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen
- Plug Point
- Approximate Water Level During Drilling (feet below surface grade)
- Static Water Level (feet)

APPENDIX C

LIQUID LEVEL MEASUREMENT DATA

Groundwater Table Elevations

Well I.D.	Well Depth	Top of Casing Elevation	Depth to Product	Depth to Water	Corrected Water Table Elevation
MW-1	30.0	100.00	-	27.00	73.00
MW-2	29.0	99.10	-	25.93	73.17
MW-3	30.0	99.18	-	25.71	73.47
MW-4	30.0	97.36	-	23.61	73.75

All values registered in feet.
Elevations are based on an Arbitrary Datum - MW-1 set at 100.00 feet.
NS-Not sampled

APPENDIX D

GROUNDWATER QUALITY SUMMARY DATA

Former St. Johnsbury House
44 Main St., St. Johnsbury, Vermont

Griffin Project No. 100041751
VTDEC# 00-2803

GROUNDWATER QUALITY SUMMARY

MW-1

Sample Date: / *Analytical Method:* / PARAMETER	1/19/01 8021B	2000 VGES (ppb)
Benzene	ND>1.0	5.
Toluene	ND>1.0	1,000.
Ethylbenzene	ND>1.0	700.
Xylenes	ND>1.0	10,000.
Total BTEX	ND>1.0	-
MTBE	ND>10.0	40.
1,3,5-Trimethylbenzene	ND>1.0	4.
1,2,4-Trimethylbenzene	ND>1.0	5.
Naphthalene	ND>1.0	20.
Total Targeted VOCs	ND	-

MW-2

Sample Date: / *Analytical Method:* / PARAMETER	11/27/00 8021B	2000 VGES (ppb)
Benzene	ND>1.0	5.
Toluene	ND>1.0	1,000.
Ethylbenzene	ND>1.0	700.
Xylenes	ND>1.0	10,000.
Total BTEX	ND>1.0	-
MTBE	ND>10.0	40.
1,3,5-Trimethylbenzene	ND>1.0	4.
1,2,4-Trimethylbenzene	ND>1.0	5.
Naphthalene	ND>1.0	20.
Total Targeted VOCs	ND	-

All Values Reported in ug/L (ppb)
ND - None detected above sample specific detection limit
Bold indicates a detection. Concentrations which are equal to or greater than the VGES are shaded.
VGES - Vermont Groundwater Enforcement Standard (Groundwater Protection Rule and Strategy, January 20, 2000)

MW-3

Sample Date: / *Analytical Method:* / PARAMETER	1/19/01 8021B	2000 VGES (ppb)
Benzene	ND>1.0	5.
Toluene	ND>1.0	1,000.
Ethylbenzene	ND>1.0	700.
Xylenes	ND>1.0	10,000.
Total BTEX	ND>1.0	-
MTBE	ND>10.0	40.
1,3,5-Trimethylbenzene	ND>1.0	4.
1,2,4-Trimethylbenzene	ND>1.0	5.
Naphthalene	ND>1.0	20.
Total Targeted VOCs	ND	-

MW-4

Sample Date: / *Analytical Method:* / PARAMETER	1/19/01 8021B	2000 VGES (ppb)
Benzene	ND>1.0	5.
Toluene	ND>1.0	1,000.
Ethylbenzene	ND>1.0	700.
Xylenes	ND>1.0	10,000.
Total BTEX	ND>1.0	-
MTBE	ND>10.0	40.
1,3,5-Trimethylbenzene	ND>1.0	4.
1,2,4-Trimethylbenzene	ND>1.0	5.
Naphthalene	ND>1.0	20.
Total Targeted VOCs	ND	-

All Values Reported in ug/L (ppb)
ND - None detected above sample specific detection limit
Bold indicates a detection. Concentrations which are equal to or greater than the VGES are shaded.
VGES - Vermont Groundwater Enforcement Standard (Groundwater Protection Rule and Strategy, January 20, 2000)

Former St. Johnsbury House
44 Main St., St. Johnsbury, Vermont

Griffin Project No. 100041751
VTDEC# 00-2803

MW-1

Sample Date:	1/19/01
Analytical Method:	8015 DRO
PARAMETER	
Total Petroleum Hydrocrbns.	ND> 0.40

MW-2

Sample Date:	1/19/01
Analytical Method:	8015 DRO
PARAMETER	
Total Petroleum Hydrocrbns.	ND> 0.40

MW-3

Sample Date:	1/19/01
Analytical Method:	8015 DRO
PARAMETER	
Total Petroleum Hydrocrbns.	ND> 0.40

MW-4

Sample Date:	1/19/01
Analytical Method:	8015 DRO
PARAMETER	
Total Petroleum Hydrocrbns.	ND> 0.40

All Values Reported in mg/L (ppm)
ND - None detected above sample specific detection limit
Bold indicates a detection. Concentrations which are equal to or greater than the VGES are shaded.
VGES - Vermont Groundwater Enforcement Standard (Groundwater Protection Rule and Strategy, January 20, 2000)

APPENDIX E

GROUNDWATER LABORATORY ANALYTICAL REPORT

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

Griffin International
PO Box 943
Williston, VT 05495
Attn:

PROJECT: Former St. Johns House/#1000417
ORDER ID: 11029
RECEIVE DATE: January 19, 2001
REPORT DATE: February 8, 2001

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Different groups of analyses may be reported under separate cover.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which include matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits, unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Former St. Johns House/#100041751
REPORT DATE: February 8, 2001

ORDER ID: 11029
DATE RECEIVED: January 19, 2001
SAMPLER: RD
ANALYST: 128

Ref. Number: 168256 | Site: Duplicate | Date Sampled: January 19, 2001 | Time: 12:04 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	2/7/01

Ref. Number: 168257 | Site: MW-1 | Date Sampled: January 19, 2001 | Time: 12:27 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	2/2/01

Ref. Number: 168258 | Site: MW-2 | Date Sampled: January 19, 2001 | Time: 12:46 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	2/2/01

Ref. Number: 168259 | Site: MW-3 | Date Sampled: January 19, 2001 | Time: 12:04 PM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	2/7/01

Ref. Number: 168260 | Site: MW-4 | Date Sampled: January 19, 2001 | Time: 11:44 AM

Parameter	Result	Unit	Method	Analysis Date
TPH 8015 DRO	< 0.40	mg/L	SW 8015B	2/2/01

ENDYNE, INC.

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

CHAIN-OF-CUSTODY-RECORD

41500

Project Name: FORMER ST. JOHNSBURY HOUSE #10641751	Reporting Address: GREEN	Billing Address: GREEN
Endyne Order ID: (Lab Use Only) 11029 -O -I -S	Company: GREEN Contact Name/Phone #: RP	Sampler Name: RP Phone #:

Ref # (Lab Use Only)	Sample Identification	Matrix	GRAB	COMP	Date/Time	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
168256	DUPLICATE	H2O	X		1/19/01 1204	3	40ml		8021B 8015 GRO	HCl	
168257	MW-1				1227						
168258	MW-2				1246						
168259	MW-3				1204						
168260	MW-4				1144						

Relinquished by:	Date/Time	Received by:	Date/Time	Received by:	Date/Time
	1/19/01		1/19/01 1600		

New York State Project: Yes ___ No X

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Sulfate	21	1664 TPH/FOG	26	8270 PAH
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	8015 GRO	27	PP13 Metals
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	(23)	8015 DRO	28	RCRA8 Metals
4	Nitrite N	9	BOD	14	Turbidity	19	8021B	24	8260/8260B	29	
5	Nitrate N	10	Alkalinity	15	Conductivity	20	8010/8020	25	8270 B/N or Acid	30	
31	Metals (As Is, Total, Diss.) Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sr, Ti, Tl, V, Zn										
32	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)					33					
34	Other										

(White, Yellow, Pink Copy - Laboratory / Goldenrod Copy - Client)

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

Griffin International
PO Box 943
Williston, VT 05495
Attn:

PROJECT: Former St. Johns House/#10004175 1
ORDER ID: 11029
RECEIVE DATE: January 19, 2001
REPORT DATE: January 26, 2001

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Different groups of analyses may be reported under separate cover.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which include matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits, unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

ENDYNE, INC.

Laboratory Services

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Former St. Johns House/#100041751
REPORT DATE: January 26, 2001

ORDER ID: 11029
DATE RECEIVED: January 19, 2001
SAMPLER: RD

Site: Duplicate
Ref. Number: 168256
Anal. Method: SW 8021B
Date Sampled: 1/19/01
Time Sampled: 12:04 PM
Analysis Date: 1/24/01
Analyst: 222

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	98.%

Site: MW-2
Ref. Number: 168258
Anal. Method: SW 8021B
Date Sampled: 1/19/01
Time Sampled: 12:46 PM
Analysis Date: 1/24/01
Analyst: 222

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	100.%

Site: MW-4
Ref. Number: 168260
Anal. Method: SW 8021B
Date Sampled: 1/19/01
Time Sampled: 11:44 AM
Analysis Date: 1/24/01
Analyst: 222

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	99.%

Site: MW-1
Ref. Number: 168257
Anal. Method: SW 8021B
Date Sampled: 1/19/01
Time Sampled: 12:27 PM
Analysis Date: 1/24/01
Analyst: 222

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	100.%

Site: MW-3
Ref. Number: 168259
Anal. Method: SW 8021B
Date Sampled: 1/19/01
Time Sampled: 12:04 PM
Analysis Date: 1/24/01
Analyst: 222

Parameter	Results ug/L
MTBE	< 10.0
Benzene	< 1.0
Toluene	< 1.0
Ethylbenzene	< 1.0
Xylenes, Total	< 1.0
1,3,5 Trimethyl Benzene	< 1.0
1,2,4 Trimethyl Benzene	< 1.0
Naphthalene	< 1.0
UIP's	0.
Surrogate 1	100.%

ENDYNE, INC.
160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

CHAIN-OF-CUSTODY-RECORD

41500

Project Name: FORMER ST. JOHNSBURY Warehouse #1000417571	Reporting Address: GREEN	Billing Address: GREEN
Endyne Order ID: (Lab Use Only) 11029	Company: GREEN	Sampler Name: RP
-O -I -S	Contact Name/Phone #: RP	Phone #:

Ref # (Lab Use Only)	Sample Identification	Matrix	GRAB	COMP	Date/Time	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
168256	DUPLICATE	H_2O	X		1/19/01 1204	3	40ml		8021B 8015 GRO	HCl	
168257	MW-1				1227						
168258	MW-2				1246						
168259	MW-3				1204						
168260	MW-4				1144						

Relinquished by:	Date/Time	Received by:	Date/Time	Received by:	Date/Time
	1/19/01		1/19/01 1600		

New York State Project: Yes ____ No X

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Sulfate	21	1664 TPH/FOG	26	8270 PAH
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	8015 GRO	27	PP13 Metals
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	(23)	8015 DRO	28	RCRA8 Metals
4	Nitrite N	9	BOD	14	Turbidity	19	8021B	24	8260/8260B	29	
5	Nitrate N	10	Alkalinity	15	Conductivity	20	8010/8020	25	8270 B/N or Acid	30	
31	Metals (As Is, Total, Diss.) Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sr, Ti, Tl, V, Zn										
32	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)					33					
34	Other										

(White, Yellow, Pink Copy - Laboratory / Goldenrod Copy - Client)

≡ ENDYNE, INC.
160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

CHAIN-OF-CUSTODY-RECORD

41500

Project Name: Former St. Johnsbury House #1066-1751	Reporting Address: GREEN	Billing Address: GREEN
Endyne Order ID: (Lab Use Only) -O -I -S	Company: GREEN Contact Name/Phone #: RP	Sampler Name: RP Phone #:

Ref # (Lab Use Only)	Sample Identification	Matrix	GRAB	COMP	Date/Time 1/19/01	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
	DUPLICATE	H_2O	X		1204	3	40ml		8021B 8015 DRO	HCl	
	MW-1				1227						
	MW-2				1246						
	MW-3				1204						
	MW-4				1144						

Relinquished by:	Date/Time	Received by:	Date/Time	Received by:	Date/Time
RP	1/19/01		1/19/01		

New York State Project: Yes ___ No X

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Sulfate	21	1664 TPH/FOG	26	8270 PAH
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	8015 GRO	27	PP13 Metals
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	(23)	8015 DRO	28	RCRA8 Metals
4	Nitrite N	9	BOD	14	Turbidity	19	8021B	24	8260/8260B	29	
5	Nitrate N	10	Alkalinity	15	Conductivity	20	8010/8020	25	8270 B/N or Acid	30	
31	Metals (As Is, Total, Diss.) Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sr, Ti, Tl, V, Zn										
32	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)					33					
34	Other										

(White, Yellow, Pink Copy - Laboratory / Goldenrod Copy - Client)